

# Special report: symposium on transformational change in health sciences libraries: space, collections, and roles\*

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## INTRODUCTION

In November 2003, the National Library of Medicine (NLM) and the Association of Academic Health Sciences Libraries (AAHSL) cosponsored a symposium, "The Library as Place: Building and Revitalizing Health Sciences Libraries in the Digital Age," focusing on the question: "What is the role of the library in the twenty-first century?" After two days of presentations and discussions, symposium participants concluded "that both the print and the virtual electronic library are here to stay." As Deanna Marcum observed, "The library will certainly change. And its need for space may significantly shrink. But the digital era, far from ending the physical library, may free it to facilitate learning rather than to house shelves—and may free those who work within the library spaces to do less book processing and more learning facilitation" [1].

In the summer of 2008, the National Network of Libraries of Medicine (NN/LM), Middle Atlantic Region (MAR), as a follow-up to the NLM/AAHSL symposium, announced their intention to fund a regional conference about library space planning and solicited applications for their Library Space and Its Impact Conference Award. In response to this solicitation, the George T. Harrell Health Sciences Library (Harrell HSL) applied for and received the award. The announcement proved to be timely: The Harrell HSL was in the process of repurposing 10,000 square feet of library space into the new Penn State Hershey Clinical Simulation Center [2, 3]. The Harrell HSL experience provided a firsthand, real-life example of the issues faced by libraries in a rapidly changing environment. The award funded a one-day library space planning conference, held in April 2009, which was offered to librarians both regionally and nationally.

## PLANNING AND IMPLEMENTATION

Health sciences libraries' collections are becoming almost exclusively electronic, and issues surrounding the physical space, services, and librarian roles are emerging as areas of intense interest [4]. Libraries' physical space has been a topic of discussion for

decades [5–9]. The current dialogue focuses on repurposing the libraries' physical space [10, 11]. As libraries convert to digital collections, institutions are viewing library space as an asset that can be repurposed for other functions. In this changing physical landscape of decreasing physical space and budget allocations, librarians are left to grapple with providing quality services, creating state-of-the-art learning environments, and facilitating access to digital and print collections.

Because hospital and academic libraries are affected by loss of physical space, changing services, and new librarian roles, the conference planning group included two hospital library directors and three academic health sciences librarians, all from central Pennsylvania. The Penn State College of Medicine Harrell HSL reference librarian performed the literature review and selected websites. A bibliography (Appendix, online only) was created, shared, discussed, and revised. Following the conference, the *Journal of the Medical Library Association* published a series of articles about issues related to libraries' physical space. These articles were added to the bibliography. The planning group identified emerging library space concerns, services, and roles for librarians. The conference was organized around four major themes that emerged from this discussion:

- models or best practices in libraries' reduction of print collections
- models and best practices in libraries' reduction of space and/or repurposing of existing space
- emerging roles and identities of librarians in the changing physical environment
- models or best practices for adjusting traditional library roles and services

The target audience for the conference included health sciences librarians, both hospital and academic, from Region 1 (Delaware, New Jersey, New York, and Pennsylvania) of the National Network of Libraries of Medicine (NN/LM). The conference was advertised in the NN/LM MAR and nationally using a variety of venues, including the NN/LM MAR email discussion list, MEDLIB-L, Medical Library Association chapters and Hospital Libraries Section, and local consortia. Registration took place online and through a trifold flyer that was mailed to NN/LM MAR full and affiliate members. The registration announcement included information about 5 scholarships of up to \$1,000 each that were awarded to cover the conference fee, hotel, per diem, and travel costs. All 5 scholarships were awarded after a highly competitive application process that chose applicants based on their descriptions of financial need and identification of learning opportunities and expected outcomes.

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A supplemental appendix is available with the online version of this journal.

At registration, attendees received information packets that contained the agenda and library space planning resources, including the bibliography with article citations, web links, and a synopsis of the literature. A website with the conference presentations (including podcasts), goals, outcomes, summaries of key points, and conclusions resides on the NN/LM MAR website [3].

## INVITED SPEAKERS

The one-day conference was structured around an opening presentation, followed by panel discussions, breakout sessions, and a closing presentation. Patricia L. Thibodeau, AHIP, FMLA, associate dean of library services, Medical Center Library, Duke University, presented the keynote address, which focused on changes in health sciences libraries in general and changes at the Duke University Medical Center Library in particular. She also discussed implications for librarian roles and the need to transform skill sets.

Two panel discussions addressed the conference themes in a question-and-answer format. Questions were developed from a shared understanding of the issues identified via the literature review. The panel was composed of four librarians, two from hospital libraries and two from academic libraries. The four panelists were: Christine Chastain-Warheit, AHIP, Lewis B. Flinn Medical Library, Christiana Care Health System; Heidi Nickisch Duggan, associate director, Galter Health Sciences Library, Feinberg School of Medicine, Northwestern University; Barbara Iobst, library director, Lehigh Valley Hospital and Health Network; and Cynthia Robinson, AHIP, director, George T. Harrell Health Sciences Library, Pennsylvania State University College of Medicine. Michael Heyd, AHIP, director, Medical Library, Susquehanna Health System, acted as the moderator for both panel discussions.

Architect Julie C. Polletta, AIA, LEED AP, Radelet McCarthy, and architect for the Penn State Hershey College of Medicine library project, presented the closing address, which highlighted her experience renovating and repurposing library space for alternative uses and the implications of the competing agendas of various stakeholders on outcome.

## KEYNOTE PRESENTATION

Thibodeau discussed four topics of broad interest that shed light on the future of libraries: (1) environmental scan; (2) world view of libraries' future; (3) roles, skills, and competencies; and (4) Duke University Medical Center Library in five to ten years.

### Environmental scan

During this time of difficult economic challenge, health sciences library budgets must contend with rising electronic resource costs and shrinking budgets and resources. Libraries cannot continue to sustain their current collections as their budgets decrease and

the cost of many electronic resources increases by double digits. In an effort to meet the information demands of the Duke University Medical Center, the library has significantly reduced its book budget to augment funding for journals. In a further attempt to alleviate some of the financial burden, the medical center library and the main campus library participate in resource cost sharing, but the cost of resources continues to outpace the budget. Adding to falling revenue and budgetary woes, the library is also undergoing a loss of physical space.

To remain relevant and survive in this environment, libraries must retool services and resources and align them with institutional priorities. This involves altering current behaviors, mindsets, and attitudes to stop doing what has been done and focus on user experiences and expectations, flexible physical space, and emerging technology. If this change is accomplished, libraries will remain the providers of key information in a rich environment of research, education, health care reform, quality patient care, health care management, and consumer health care. As health care professionals experience information overload, librarians must use their ability to select, manage, and disseminate information to meet the growing demands of their institutions. Traditional physical structures such as journal and book stacks will no longer be part of the libraries' future. Thibodeau quoted Edward Deming, saying, "It is not necessary to change. Survival is not mandatory."

Thibodeau also discussed a paper by Thomas Frey of the DaVinci Institute, "The Future of Libraries: Beginning the Great Transformation," on key trends affecting the development of libraries [12]. Frey believes that print books as a medium have a finite life span, and search capabilities will become even more complex and involve experiential facets such as touch, smell, and taste. Library users will have less time, more information needs, and a desire for faster responses from librarians. How users experience digital library resources will change. For example, user access to a full-text electronic journal article might also include related information and interactive multimedia. Thibodeau identified five physician skill sets for which librarians can provide information and services: business savvy (market and competitive research), knowledge of quality-management science (serve on a quality-management committee), interdisciplinary cooperation (assist with institutional strategic plan), understanding of Medicare and managed care, and patient-centered skills (participate in disaster planning).

### World view of libraries' future

For a world view of libraries' future, Thibodeau referenced a blog post by Adam Corson-Finnerty, previous library director of development/special initiatives at University of Pennsylvania, "Time to say goodbye" [13]. Corson-Finnerty believes academic libraries are looking at a death spiral and a financial era of doing "less with less." He postulates that if

the old formula is not working, then librarians should reconceptualize the library as an enterprise through removing most book stacks, providing learning environments, and instituting on-demand scanning services. Corson-Finnerty also suggests other roles for library staff, including participating on research teams, creating digital services and tools, becoming information brokers for the institution, training faculty to be information literate, marketing unique collections, and making them accessible.

The TAIGA Group, also mentioned by Thibodeau, monitors the current state of libraries, predicts the future of libraries, and proffers advice to librarians [14]. The group recommends librarians take personal responsibility on a regular basis for professional development. The group goes on to encourage libraries to collect only items requested by clients, keep only the material that is actively used, and abandon hybrid collections in favor of exclusively digital resources. Their prediction for the future is one where after many years of faculty disinterest, the library outreach model will be discarded and library buildings will become campus community centers. Library services will be aligned with administrative support rather than academic services. Library deans and directors will not be librarians but will come from other areas including business and health care. In the near future, public services and technical services will merge into consulting services and all information discoveries will begin with Google.

### Roles, skills, and competencies

Looking to the future, Thibodeau identified core skills and knowledge sets that can be applied to many areas in an institution. First, librarians are organizational experts who see not only the big picture, but also the components necessary to reach goals. Librarians are strategists who work within the political environment to build coalitions, collaborate, and align themselves with institutional goals. Thibodeau advised librarians to organize classes, participate in institution-wide complex projects, learn the business terminology and apply it in different situations, and speak out at meetings. Librarians must assist clients with their organizational needs and move away from technical services by utilizing the staff's skills elsewhere. Second, librarians are information disseminators and communicators, and they should promulgate resources, share information and data sets, and participate in institutional teams. They must employ technology to provide better communication and use Web 2.0 to offer faster access to services and resources. Libraries can provide a filtering service by building expertise in distilling information or by selecting tools that offer this. Third, the library is neutral and can act as a communication bridge between departments by placing people in contact with others working on similar projects. Finally, to succeed, librarians must be open to new opportunities and directions; know when to walk away from traditional services; talk with academic vice deans, the information technology

department, and faculty; be involved in data storage and other research needs; and identify institutional gaps that can be filled by librarians. If librarians do not step into these roles, others will. Thibodeau asked Duke University Medical Center Library senior management for their list of future roles for librarians. These are some of the future roles they identified: e-science, technology, advisors, partners/collaborators, evidence-based medicine experts, information filters, embedded informationists, educators integrated into curriculum, continuing medical education, open access, scholarly communication, project orientation, user-focused collection development, designers of self-instruction and on-demand instruction, individuals who customize services, tools for easier access, professionals who push resources where people will find them, influencers of Google rather than fighters of it, and informers of design of systems. Thibodeau stated, "Librarians are more than their collections. Librarians make libraries valuable."

### Duke library in five to ten years

In the next five to ten years, all Duke University Medical Center Library decisions about services, resources, staff, and space will be aligned with institutional priorities. Consultation will become the most important service, followed by teaching new technology courses, evidence-based medicine instruction, information management, courses for new faculty, further integration into the curriculum, and participation in continuing medical education responsibilities. Personal librarians will be assigned to all medical students. The library will be involved in faculty projects, instructional design, research labs, and provide a "SWAT team" approach to diagnosing and treating information problems. Current and emerging web technologies will be the primary entry point to all library resources. Technical services will be absorbed by reference and instructional services. Technologies will be integrated throughout the library, not just in the information commons area, and the library will become the home for a faculty center and student gathering space. Students will reconfigure flexible library spaces, and the library will be the most sought after resource on campus.

### PANEL DISCUSSIONS

Following the keynote address by Thibodeau, two panel discussions addressed issues related to the conference themes. To allow panelists time to prepare and maintain focus throughout the panel discussion, each received the list of predetermined questions prior to the conference. Listed below are the questions posed to the panelists and a synopsis of their verbal responses:

1. As libraries reduce their print and in some cases electronic collections, is it wise to believe that interlibrary loan (ILL) will fill the gap? Response: ILL will fill the gap for academics if institutional collaboration is sought, journal backfiles are acquired,



and licenses are astutely negotiated for ILL and access. Article pay per view might be an option, but the price tag for some institutions may be cost prohibitive.

2. Given that e-resource management can be equally as cumbersome as or more cumbersome than print materials management, what benefits do you hope to achieve by going electronic? Response: Electronic resources improve access for library clientele but have resulted in pushback from students, faculty, and staff who want continued access to print material. As many libraries convert the majority of their collection to the electronic format, they must brand and market the library website. Marketing library resources so faculty, staff, and students are aware of who provides the information is imperative.

3. How can efficient, effective library spaces be designed that provide the best of both worlds, print and electronic? How have you repurposed existing space? Response: The conversion from print to electronic provides the opportunity to create space for collaborative learning environments, additional computers, instruction labs, and socially interactive spaces, including a faculty business center. Compact shelving can be strategically placed to create a zone for quiet spaces where individuals and groups study. Flexible spaces with movable monitors on carts, laptops, and whiteboards are sought by students. Repurposing library space can be cheaper than creating new library space. Find out what other libraries are doing; research and discuss library knowledge commons projects.

4. What will be the most important services and roles the library and librarians play in your hospital, college, or institution? Response: The library is the place where everyone can share 24/7 computer resources. Many library websites are not device ubiquitous, and as such, libraries need to build sites for mobile technology devices that incorporate point-of-care resources, widget search engines for databases like PubMed Clinical Queries, and instructional videos on YouTube. In addition to computer stations, the library can provide laptops and netbooks for check out at the circulation desk. If libraries align themselves with the goals of the institution, they may be asked by administration to participate in nontraditional roles and thus find themselves to be an invaluable asset. Digitize archives in an effort to preserve the institutional history. Construct an information technology help desk outpost in the library to answer questions. Statistics remain valuable, so perform benchmarking with other similar institutions and keep relevant statistics, such as electronic resources utilization, computer use, and instruction sessions. Evaluate the library experience, embrace new information technologies, and experiment with creative spaces.

5. In scanning the literature, a number of new roles are proposed, such as informationist, instructor, and provider of point-of-care resources for the electronic patient record. What other roles do you see as being important to embrace? Response: Librarians will need to construct an entirely different skill set to support

institutional priorities and an electronic infrastructure. For example, consider volunteering to assist with the medical school accreditation process. Get involved in faculty development programs, participate in new employee orientations, develop web-based resources and instruction, offer consultation services, serve on the patient safety committee, create clinical librarian rounding, and provide lunch-time seminars. Communication is extraordinarily important, and when the opportunity presents itself, librarians must be able to briefly expound on library initiatives. Carefully select point-of-care resources based on need and correlate outcomes with a change in user behavior. Make circulating materials available at library satellite spots, where users work. To demonstrate the priority of "user focus," librarians may be embedded in various places throughout the clinical enterprise. Integrate evidence-based medicine into the medical school curriculum. The National Institutes of Health open access might provide "entree" into research areas as librarians partner with principle investigators in submitting manuscripts to PubMed Central.

6. How do you address the issue of library staff with outdated skill sets? Response: Host in-service training, promote online courses, and pay for courses to equip staff with the skills they need to succeed in a technologically rich environment. Hire staff with specialized skills such as a health care educator, instructional designer, and systems analyst. Cross-train staff, and encourage library faculty to participate in library teams.

## BREAKOUT SESSIONS

Breakout sessions took place after the panel discussions to permit further dialogue in small groups seated at tables. The tables were organized by library affiliation (hospital versus academic versus special) and facilitated and recorded by local volunteer librarians. Clinical scenarios were presented, and ideas were exchanged on the four basic conference themes.

Recommendations related to the reduction of print collections include:

- revise collection development policy with greater emphasis on digital resources
- analyze collection and usage
- relate library priorities to the institutional mission
- outsource cataloging or technical services
- purchase only recommended resources
- determine ratio of cost per use for journals
- consider pay per view instead of annual subscriptions
- join consortia and consider cost sharing within the institution to support collections and services
- improve negotiation skills

Recommendations related to repurposing space include:

- identify possible institutional partners (e.g., informatics/information technology, bookstore, simulation lab, food services/cafeteria, specific clinical departments, and administrators)

- perform a needs assessment that includes focus groups, online survey, and a literature review
- consider space reconfigurations to support private study areas, group study areas, collaborative spaces, multimedia lab, computer stations, laptop area, carrels, smart classroom, training and development areas, multipurpose and conference rooms, café, skills lab, service to patients and families, and outreach to the public

Recommendations related to emerging roles for librarians include:

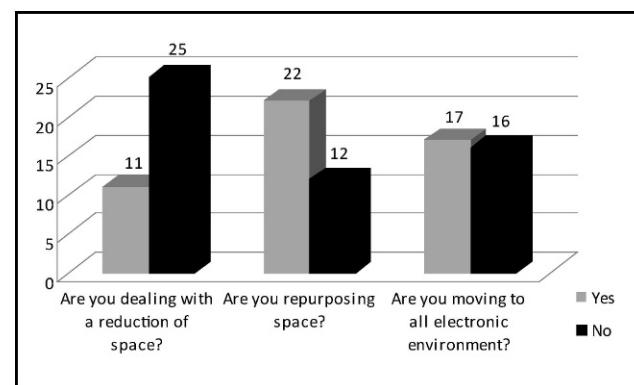
- train staff for more sophisticated and technical roles
- market information management skills of existing staff
- create library liaison programs for students and faculty
- participate in clinical rounding and consider embedding librarians in clinical departments
- market grant-writing skills
- manage or participate in institutional repositories
- offer editorial support and technical writing services
- integrate instruction into the medical school curriculum, residency training, and clinical education

## ARCHITECT'S CLOSING REMARKS

In her closing remarks to conference attendees, Polletta discussed the fundamental changes in behavior and expectations for library space and services. Libraries are not in a transitional phase, they are in transformational change. Using the Starbucks archetype that transformed the coffee bean to a branded coffee refreshment and finally to a coffeehouse experience, libraries are similarly moving from a goods-based economy (books), to a service-based economy (reference), to an experience-based economy. Library users value the "library as place" experience. Patrons appreciate repurposing legacy space to interactive zones, collaborative cafés, or knowledge commons. They value the experience of finding information, discussing it, and sharing it.

Polletta provided examples and best practices for library renovations. A planning team must be recruited and must articulate the vision of the project that includes priorities and parameters. A budget must be established and a realistic schedule determined. Stakeholders must be identified, and methods of communication must be put in place. The construction project moves from the feasibility studies, to the schematic design, to bidding, to construction, to occupancy, and finally, to the opening. The Penn State Hershey College of Medicine George T. Harrell HSL project has resulted in a highly successful conversion from a quiet, underused stack area to a vibrant 10,000-square-foot complex of observable simulation labs, debriefing conference rooms, collaborative spaces, galleries, and independent learning areas. At the same time, the remaining library space has been updated with compact shelving, new furniture, additional computers, an increased number of carrels, improved lighting, and additional electrical and

**Figure 1**  
Attendee responses



wired network connections. Polletta encouraged librarians to work with architects to create a comfortable modern environment where students, faculty, and staff come to avail themselves of the technologically robust, resource-rich, social space.

## EVALUATION

Printed evaluations were included in the packets and distributed to the 70 conference attendees. Thirty-eight of the 70 attendees returned the questionnaire, for a response rate of 54.3%. Of those who completed the evaluation, 88.9% (32/36) reported their knowledge of the topic was enhanced or greatly enhanced. One hundred percent of the respondents agreed or somewhat agreed that the conference objectives were met (38/38); audience participation was appropriate (38/38); conference content was well organized, timely, and useful (38/38); and conference outcomes were relevant and applicable (38/38). Of those who completed the evaluation, 86.1% (31/36) graded the conference as an "A" and 13.9% (5/36) gave it a "B." Interestingly, 30.6% (11/36) of the respondents were dealing with reduction of existing space; 64.7% (22/34) were repurposing space; and 51.5% (17/33) were moving to an all electronic environment (Figure 1).

## CONCLUSION

The successful, one-day library space planning conference generated discussion about reducing the print collection, repurposing space, adjusting library services, and defining emerging roles for librarians. The ongoing conversion from print to electronic resources affords librarians the opportunity to create state-of-the-art flexible collaborative spaces, areas for individual study, archival repositories, and information technology help desks in the library. As librarians evolve to embrace new roles and services, they assume more complex responsibilities. In-depth knowledge of electronic licensing agreements, close alignment with the institutional mission, information technology infrastructure, informatics, information

literacy, e-science, metadata creation, and open access are some of the areas in which librarians can play a proactive role. The future is bright if librarians collaborate to define a new vision, purpose, and mission. As Donald A. B. Lindberg declared in his opening remarks for the "Library as Place" symposium, "There is a role for libraries in the digital age" [1].

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